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REMARKS

Claims 14-15 and 17-29 are pending in this application. Claim 14 is the only independent claim.

The 7/26/05 Final Action rejected Claims 14-15 and 18-29 as being unpatentable over Boden in view of Kinzer. The 11/14/05 Advisory Action indicated that the 10/23/05 Amendment failed to place the application in condition for allowance, and provided comments in response to Applicants' 10/23/05 response. The outstanding final rejection is again hereby respectfully traversed and reconsideration is requested.

Independent Claim 14 is directed to a method of forming a power MOSFET including the steps of...forming a plurality of trenches in the drift region of the epitaxial layer, epitaxially depositing in the trenches a material having a dopant of the second conductivity type, the trenches extending toward the substrate from the first and second body regions and diffusing at least a portion of the dopant from said trenches into portions of the epitaxial layer adjacent the trenches.

The Final Action admits on page 3 that "Boden does not disclose epitaxially depositing in trenches a material having a dopant of the second conductivity type and diffusing at least a portion of said dopant from said trenches into portions of the epitaxial layer adjacent the trenches". The Action then turns to the alleged teachings of Kinzer, stating that "Kinzer discloses depositing in trenches a material 4, fig. 1, having a dopant of the second conductivity type...and diffusing at least a portion of said dopant from said trenches into portions of the epitaxial layer 2 adjacent to the trenches 2, fig. 1".

Applicant *again* respectfully submits that Kinzer does not teach or suggest depositing a material labeled 4 in the trenches 3 – instead, in Kinzer the "sidewalls and bottoms of each of trenches 3 are doped p-type by any suitable process" (col. 2, lines 25-26) – then the "trenches 3 are filled with dielectric material" (col. 2, line 32). Since "region 4" was already present, but doped n-type before the p-type dopant was introduced, it is epitaxial, but from the deposition of epitaxial layer "2".

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Again – Claim 14 recites epitaxially depositing in the trenches a material having a dopant of the second conductivity typeand diffusing at least a portion of the dopant from said trenches into portions of the epitaxial layer adjacent the trenches. The statement in the Final Action that “Kinzer discloses *depositing in trenches a material 4, fig. 1, having a dopant of the second conductivity type...and diffusing at least a portion of said dopant from said trenches* into portions of the epitaxial layer 2 adjacent to the trenches 2, fig. 1” – is simply incorrect.

Therefore, Kinzer does *not* provide the requisite teaching of this element recited in Claim 14 - an element acknowledged in the final Action to be missing from the teachings of Boden. As this *argument was not addressed in the November 14, 2005 Advisory Action*, clarification is requested.

With regard to the teachings of Beyer '851, Applicants again respectfully submit that it is *polysilicon*, not epitaxial silicon, that is deposited (col. 5, lines 50-55). The section recited in the Advisory states that:

“the trench is filled with boron-doped polysilicon according to conventional techniques, e.g., by either depositing polysilicon in a RF equipment or by epitaxial silicon deposition, which selectively deposits on silicon but not on the composite dielectric layer”.

The “epitaxial silicon deposition” refers to the previous statement that the trench is “filled with boron-doped polysilicon” – by using epitaxial silicon deposition that “selectively deposits on silicon but not on the composite dielectric layer”.


For at *least* the foregoing reasons, Applicant respectfully submits that independent Claim 14 is patentable over any permissible combination of the teachings of Boden and Kinzer.

In view of the foregoing, it is believed that the application is now in condition for allowance and early passage of this case to issue is respectfully requested. Should the Examiner be of the view that an interview would expedite consideration of this Amendment or of the application at large, request is made that the Examiner telephone the Applicant's undersigned attorney at (908) 518-7700 in order that any outstanding issues be resolved.

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The Examiner is authorized to charge all fees due and owing in respect to this amendment to deposit account number 50-1047.

Respectfully submitted,


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